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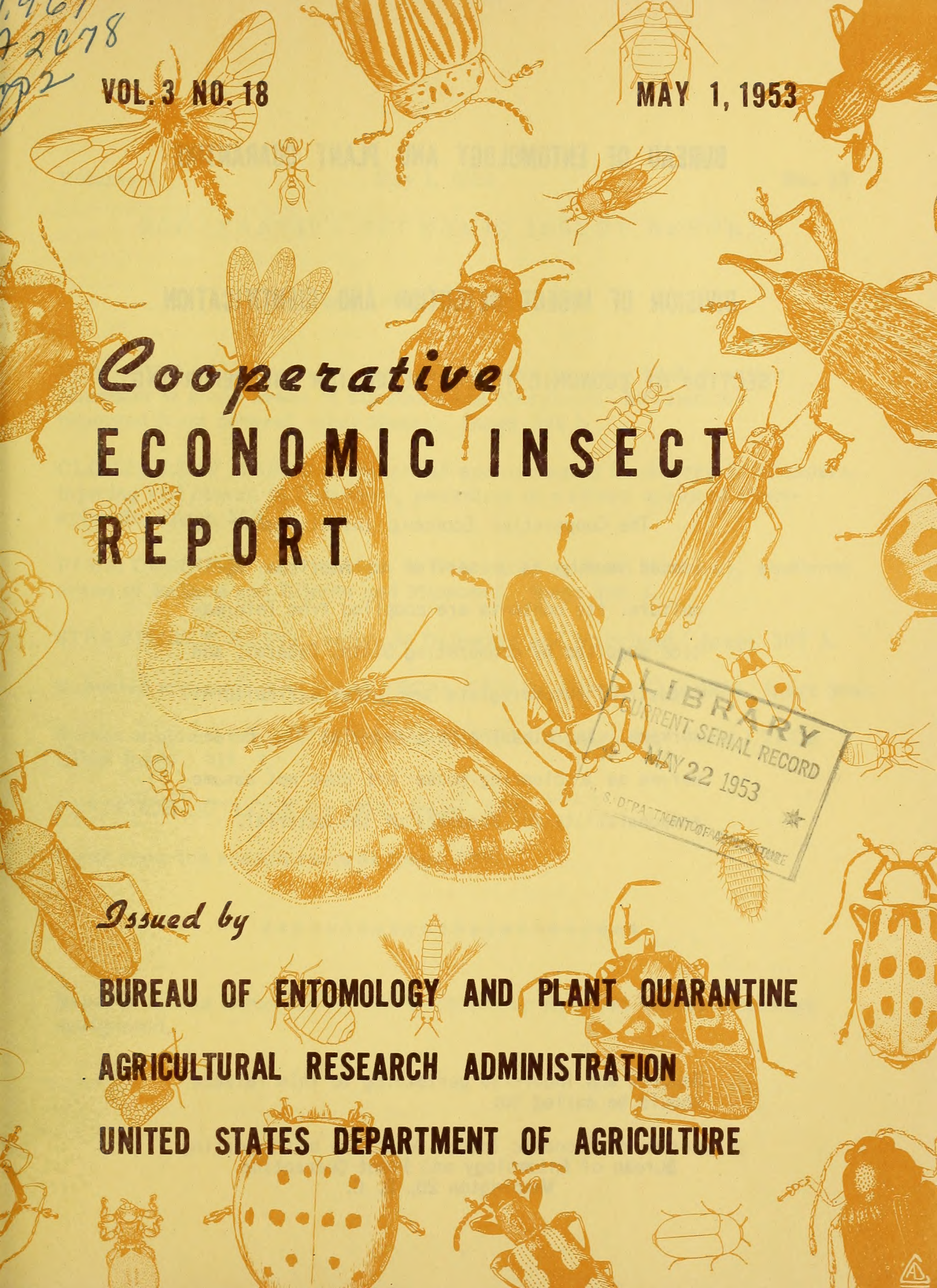

Cooperative ECONOMIC INSECT REPORT

Issued by

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

DIVISION OF INSECT DETECTION AND IDENTIFICATION

SECTION OF ECONOMIC INSECT DETECTION AND REPORTING

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Bureau serves as a clearing house and does not assume responsibility for accuracy of the material.

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Section of Economic Insect Detection and Reporting
Bureau of Entomology and Plant Quarantine
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Volume 3 May 1, 1953 No. 18

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

PEA APHID causing severe damage to alfalfa in some Utah counties. Abundant in some areas of Missouri and Maryland. Infestations reported from several other States. (page 299).

CLOVER LEAF WEEVIL widespread and damaging to clovers in Missouri, injuring red clover in Delaware, prevalent in western areas of Pennsylvania. (page 300).

PLUM CURCULIO activity light in Delaware, western Kentucky, southern areas of Indiana and Illinois and Missouri. (page 301).

STRAWBERRY WEEVIL active in Delaware and Maryland. (page 307).

Expected appearance of PERIODICAL CICADA (Brood X) in 1953. (page 304).

Survey methods for ALFALFA CATERPILLAR (page 311) and LYGUS BUGS (page 312).

PESTICIDE OUTLOOK for 1953. (page 297).

First reported season records (page 309).

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Reports in this issue are for the week ending April 24 unless otherwise designated.

Weather of the Week Ending April 28, 1953

Precipitation that was more widespread than during any preceding week this year, was very beneficial in much of the western half of the Nation, but delayed field work in the eastern half and maintained excessive soil moisture in the Northeast. The week was 5 degrees to 15 degrees warmer than the preceding week, with temperatures averaging 3 degrees to 6 degrees above normal in most of the far West, 3 degrees above along the north Atlantic Coast, 3 degrees to 5 degrees below normal in Florida and the Central and East Gulf coastal areas, and near normal elsewhere.

Following two days of generally fair weather, light to moderate precipitation, beginning in the Northwest and in the Arizona-New Mexico-Western Texas area in the Southwest on the 23d, became general over the Great Plains on the 23d and 24th and the remaining eastern sections of the Country on the 25th and 26th, continuing in the Northeast until the end of the period.

This precipitation ranged up to 3 inches in North Dakota and ended the prolonged drought in that State. Dry conditions in northern Minnesota were also relieved in some sections. Part of this precipitation fell as snow in northern portions of South Dakota and Wisconsin, central and northern Minnesota, and much of North Dakota where as much as 12 inches were reported in some central and northeastern sections. Rainfall was also very beneficial in eastern portions of Texas and Oklahoma, southeastern Kansas, much of Colorado, and in a few sections of New Mexico. But in the remaining sections of the lower Great Plains and southwest rainfall was generally very light. More rain is urgently needed in western portions of Kansas, Oklahoma, and Texas, and in most of New Mexico and Arizona. In the latter State stock water shortages have developed in the western and southeastern portions.

Heavy rains that fell in the extreme lower portion of the Mississippi Valley during the passage of a squall line on the night of the 24th, with amounts ranging from 4 to 7 inches in 2 hours, exceeded previous records for short duration, and in New Orleans caused flooding that damaged homes and stores.

Near the end of the period general light to mostly moderate precipitation fell in the Pacific States and was moving into the Rocky Mountain Region at the close. These rains increased weekly accumulations along the Pacific Coast north of Los Angeles to over an inch.

Unseasonably high daytime temperatures prevailed in the Great Plains during the first part of the week when maximum temperatures reached 90 degrees as far north as Iowa, 80 degrees in South Dakota, and 78 degrees at Redwood Falls, Minnesota. In the far Southwest daily maxima were generally in the 90's, and on the 26th, Yuma, Arizona recorded 100 degrees. In contrast, at the end of the period minimum temperatures in the extreme Southeast generally ranged in the 40's, with 39 degrees at Augusta, Ga., establishing a new record late-season low temperature for the station. (Summary Supplied by U. S. Weather Bureau).

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PESTICIDE OUTLOOK - 1953

(From "The Pesticide Situation for 1952-53", PMA, USDA)

Supplies generally were plentiful during the 1952 season. The increased production during 1952 resulted in an accumulation of large stocks of many important pesticides by the end of the season. Consumption was smaller than anticipated during the 1952 crop year largely because of the prolonged drought over a great part of the country. Consequently, it is expected that supplies of most pesticides will be adequate to meet the needs for 1953.

The relatively large carry-over of pesticides, especially certain insecticides, from the 1952 season, may adversely affect subsequent supplies of some materials. Manufacturers of several basic chemicals which are used as insecticides have curtailed production and in some cases have suspended operations temporarily. The current rate of production of these materials, if maintained, would not be sufficient to meet estimated requirements.

The demand for pesticides produced in the United States for export to friendly nations has increased markedly in recent years. Although a normal export activity in pesticides assists in maintaining a vigorous industry capable of meeting maximum seasonal domestic needs during widespread outbreaks of pests, the foreign demand for pesticides is a source of competition for available supplies. Farmers should plan, therefore, to purchase sufficient quantities of pesticides to meet at least minimum needs in 1953. The adequacy of the supply of most finished pesticidal products is dependent upon the active participation of the growers and retail dealers in making their needs known by ordering as far as possible in advance of the time of actual use.

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - DELAWARE - Pupation amounts to 50 to 60 percent in Sussex County, 30 to 40 in Kent County. (Late News). MARYLAND - Pupae found in cornstalks on surface of ground in Worcester and Wicomico Counties. (T. L. Bissell).

GRASSHOPPERS (Acrididae) - ARIZONA - Nymphal populations of *Aulocara elliotti*, *Melanoplus mexicanus* and *M. cuneatus* still non-economic on range lands of the San Carlos Indian Reservation, southeastern Arizona, which were sprayed last year. These species also very light on range lands of Sulphur Springs Valley, Cochise and Graham Counties. Infestations of *M. mexicanus* and *Schistocerca vaga* very light in South Gila Valley, Yuma Valley and Yuma Mesa District of Yuma County. Populations mainly confined to alfalfa fields. Majority of these species are adult. (T. J. Schmitt). - UTAH - A few first and second instar nymphs; however, in general, the hatch is retarded with regard to crop advancement. (G. F. Knowlton, April 20). CALIFORNIA - Hatch of *M. mexicanus* has begun in desert areas of Imperial Valley and similarly related land north of Yuma. Scattered hatches of *Oedaleonotus enigma* occurring in Riverside County near Temecula. The *Schistocerca vaga* infestation in grapes at Delano, Kern County, and Borego, San Diego County, may soon be subject to control. Other infested areas of the State are not at present sufficiently developed to require attention. OKLAHOMA - *Melanoplus mexicanus* observed hatching along a few roadsides and field margins of Greer, Harmon, and Jackson Counties. The hatch may indicate beginning of the general hatch of this species in southern Oklahoma. SOUTH DAKOTA - Egg development examinations in parts of central South Dakota show the following results: *M. bivittatus* and *M. mexicanus*, 60 percent eyespot stage, 40 percent early stage of segmentation; *M. differentialis* and *M. femur rubrum* mostly coagulated with minimum eyespot development. (J. R. Dutton, April 18).

MORMON CRICKET (*Anabrus simplex*) - UTAH - Hatch reported in Skull Valley in Tooele County during week of April 18. IDAHO - General hatch began in infested areas of Washington, Elmore and Cassia Counties during week of April 18. (J. R. Dutton).

CUTWORMS (Phalaenidae) - MISSISSIPPI - Black cutworm (*Agrotis ypsilon*) damage to corn severe enough in Leland District to require control measures. (D. F. Young). TEXAS - Widespread infestation damaging vetch and grain in five county area of northeast Texas. Infestation increasing some areas, decreasing others. (C. F. Garner). UTAH - Damage moderate in a few fields of alfalfa. Generally much less damaging than at this stage of crop growth in 1952. (G. F. Knowlton).

PEA APHID (*Macrosiphum pisi*) - DELAWARE- Moderately abundant throughout State. (Late News). MARYLAND- Heavy in Kent County. (T. L. Bissell). PENNSYLVANIA - Severe but spotted infestations on alfalfa in Westmoreland County. (E. J. Udine). TEXAS - Light isolated infestation on vetch in Van Zant County. (C. F. Garner). MISSOURI - Abundant on alfalfa in west central and southeast areas but not causing serious trouble. (L. Haseman). ARIZONA - Present in all alfalfa fields examined in Tempe, Kyrene, Phoenix and Laveen districts. Populations and damage range from light to heavy, mostly light to moderate. (Barnes and Nerney). UTAH - Forty percent of 16,000 acres of alfalfa in Salt Lake County severely damaged; twenty five to 30 percent show economic damage. Many fields killed back with green shoots very heavily infested with aphids. Severe and extensive damage in Utah County. Also damaging in Davis County. (G. F. Knowlton). WASHINGTON - Populations in alfalfa at Wawawai in the bottom of Snake River Canyon remain about constant (around 100 aphids per 100 sweeps). Winged aphids are beginning to appear at this location. There is little or no infestation in alfalfa at higher elevations. (R. Schopp).

ALFALFA WEEVIL (*Hypera postica*) - DELAWARE- Damage not severe, except in spots. (Late News). MARYLAND - Small numbers of larvae found in Worcester, Caroline and Prince Georges Counties. Some damage in Kent County. (T. L. Bissell).

EGYPTIAN ALFALFA WEEVIL (*Hypera brunneipennis*) - ARIZONA - Widely distributed in alfalfa fields near Tempe, Kyrene, Phoenix and Laveen. Noticeable damage to alfalfa foliage in many fields during March and early April. (Barnes and Nerney).

WEEVILS (*Hypera* spp.) - GEORGIA - Larvae and adults attacking crimson clover heads in Spalding, Butts, Henry, Walton, Morgan and Oconee Counties. Moderate to heavy infestations; 4 to 5 larvae per head in some fields. (R. B. Chase).

CLOVER LEAF WEEVIL (Hypera punctata) - DELAWARE - Most injurious pest on red clover. (Late News). PENNSYLVANIA - Prevalent in western areas. (Adams and Udine). VIRGINIA - Common enough in some fields April 2 in Staunton area to cause severe damage if uncontrolled. (A. M. Woodside). MISSOURI - Widespread and damaging, especially on Ladino and red clover. Not much injury to alfalfa. Some reports of as high as 10 to 12 per plant over much of the State. (L. Haseman). UTAH - Causing scattered damage to alfalfa in Salt Lake County and local damage in Utah County. (G. F. Knowlton).

SPITTLEBUGS (Cercopidae) - DELAWARE - Numerous generally, but development slow. (Late News). MARYLAND - Alfalfa in Prince Georges County moderately infested, 16 per 100 stems. (T. L. Bissell). PENNSYLVANIA - Meadow spittlebug (Philaneus leucophthalmus) hatching in northeast areas. (L. E. Adams). VIRGINIA - Indications spittlebug hatching began in Augusta County several days prior to April 2. (A. M. Woodside).

FALSE CHINCH BUG (Nysius ericae) - UTAH - Moderately numerous in several alfalfa seed fields at Price. (G. F. Knowlton).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - UTAH - Very numerous in some alfalfa fields in areas of Carbon and Emery Counties. Some second-instar nymphs. (G. F. Knowlton).

YELLOW STRIPED ARMYWORM (Prodenia ornithogalli) - UTAH - Many alfalfa fields in Utah County show threatening populations. (G. F. Knowlton).

CORN EARWORM (Heliothis armigera) - TEXAS - Severe widespread infestation continues on sweet corn in Hidalgo County. (Wene and Griffith).

ARMYWORMS - SOUTH CAROLINA - Causing severe injury to rye used as windbreak on one farm in Charleston area. (W. J. Reid). TENNESSEE - Armyworm adults continue to be observed in considerable numbers across the State. (R. P. Mullett). MISSISSIPPI - Pseudaletia unipuncta causing some damage to corn in Leland District. Scattered infestations also in oats; specimens can be found in most fields. (D. F. Young).

GREENBUG (Toxoptera graminum) TENNESSEE - Continues in moderate numbers in small grain fields in north middle Tennessee. (R. P. Mullett). MISSOURI - Present but doing no harm. (L. Haseman).

LEAFHOPPERS (Cicadellidae) - TEXAS - Medium isolated infestation on corn in Van Zant County, only nymphs present. (C. F. Garner).

A BILLBUG (Calendra sp.) -GEORGIA - Killing corn in Cook County, April 20. (C. R. Jordan).

MITES ON SMALL GRAIN - TEXAS - Severe widespread infestation of winter oat mite on wheat and oats in north central area. (G. T. Davis).

A GRAIN APHID - TEXAS - Light isolated infestation on small grain in Rockwall County. (C. F. Garner).

A FLEA HOPPER (Miridae) - TEXAS - Light isolated infestation on vetch in Van Zant County. (C. F. Garner).

Cereal and Forage Insect Activity, Bradenton, Florida Area: A phalaenid (Mocis sp.) found on para grass. Rhodes grass scale (Antonina graminis) prevalent on carib grass. Yellow sugarcane aphid (Sipha flava) abundant on pangola grass. Greenbug (Toxoptera graminum) appears to building up on pangola grass. Leafhoppers of undetermined species abundant in all pastures. Heavy and damaging infestation of Ruths scale (Odanaspis ruthae) at McDill Field, Tampa. Chinch bug infestation at Sarasota appears as heavy as that on the east coast of the State. Random counts have shown an excess of 30 bugs per square inch. (K. G. Kelsheimer).

A CURCULIONID (Sitona sp. prob. explicita) - GEORGIA - Larvae attacking roots of blue lupine in Burke County, March 25. (W. M. Fortson).

FRUIT INSECTS

PLUM CURCULIO (Conotrachelus nenuphar) - DELAWARE - A very few have emerged from hibernation; only 0.1 per tree collected April 20, compared with 7.0 per tree in same location on April 21, 1952. (Late News). INDIANA - Very little injury during week ending April 21 due to low temperatures in Lawrence and Orange Counties. (G. E. Marshall). GEORGIA - First full grown larvae left peach drops April 20 in Fort Valley area. Most growers have the insect under control thus far, even though the general infestation appeared to be somewhat heavier at beginning of the season than for several years. (O. I. Snapp). Active but generally light in western KENTUCKY, Villa Ridge and Carbondale, ILLINOIS areas and Vincennes, INDIANA area. (Spray Service Report). MISSOURI - Little or no activity reported so far. (Wkly Rept. to Fr. Grs.).

CODLING MOTH (Carpocapsa pomonella) - Pupation ranges from 25 to 50 percent, but no emergence in Western KENTUCKY and Villa Ridge, ILLINOIS area. Pupation started in Carbondale, ILLINOIS and Vincennes, INDIANA areas. (Spray Service Report). MISSOURI- Heavy carryover anticipated. (Wkly. Rept. Fr. Grs.).

EUROPEAN RED MITE (Metatetranychus ulmi) - MASSACHUSETTS - Hatching occurring. (Crop Pest Control Mess.). NEW YORK - First hatched April 23 in Rockland County (W. J. Clark). Eggs plentiful in Saratoga County, but no hatching yet. Clover mite hatching erroneously reported earlier as European red mite (see CEIR, Vol. 3, No. 16, page 257). (F. P. Corey). Eggs readily observed in Chatauqua County. (T. D. Jordan). DELAWARE - First hatching of the season observed. (Late News). MARYLAND - First hatching observed in orchards in Hancock area April 23. (C. Graham). OHIO - First hatching in northeastern area April 23. (C. R. Cutright). INDIANA - Eggs very numerous; 50 percent hatched in Lawrence and Orange Counties. (G. E. Marshall).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Activity slow, occasional egg mass, moths becoming more numerous in Ulster County. (W. H. Palmer). Also occasional egg mass in Dutchess County and moth activity increasing. (D. D. Sergeant). First egg mass observed April 20 in Columbia County. (M. E. Buckley). Moths active in Saratoga County. (F. P. Corey). First moth observed April 24 in Niagara County. (F. J. McNicholas). Moths abundant near Albion in Orleans County April 24. (A. G. West). MARYLAND - Number of egg clusters observed about same as last year. No hatching April 23. (C. Graham). PENNSYLVANIA - Adults fairly abundant and a few egg masses observed in Adams County. (J. O. Pepper). INDIANA - Eggs found near Bristol and Denver April 15. (D. W. Hamilton).

APHIDS ON APPLE - NEW JERSEY- Rosy apple aphid (Anuraphis roseus) stem-mothers and young nymphs causing leaf-curling in some southern area apple orchards. (A. J. Farley). DELAWARE- First rosy apple aphid hatching observed. (Late News). MARYLAND - Heavy infestation of rosy and apple aphid (Aphis pomi) in one untreated orchard in Hancock area. (C. Graham). PENNSYLVANIA - Rosy apple aphid hatching in Erie County. (L. E. Adams). OHIO - Apple grain aphid (Rhopalosiphum prunifoliae) hatching completed about April 20. Practically no infestations of rosy apple aphid observed in northeastern area. (C. R. Cutright). INDIANA- Developing rapidly in Lawrence and Orange Counties. (G. E. Marshall).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - WASHINGTON - First moth found in baits in the Parker District of Yakima County April 17. (M. S. Yothers).

A SPIDER MITE (Eotetranychus uncatus) - MASSACHUSETTS - Overwintering adults feeding on spur leaves in orchards. (Crop Pest Control Mess.)

BUD MOTHS (Olethreutidae) - MASSACHUSETTS - Caterpillars feeding in buds in orchards. (Crop Pest Control Mess.)

STINK BUGS (Pentatomidae) - PENNSYLVANIA - Adults of 2 or 3 undetermined species found on peach trees in southern areas. (J. O. Pepper). INDIANA - Very little injury during week ending April 21 in Lawrence and Orange Counties due to cold weather. (G. E. Marshall). Increasing in Carbondale, ILLINOIS and Vincennes, INDIANA areas. (Spray Service Report).

TARNISHED PLANT BUG (Lygus lineolaris) - MARYLAND - Extensive jarring and sweeping indicate extremely light infestation in Hancock area. One collected April 23. (C. Graham). NEW YORK - First adults observed April 24 in Niagara County. (F. J. McNicholas).

PLANT BUGS (Miridae) - PENNSYLVANIA - Fairly abundant on peach blossoms in southern part of State. (J. O. Pepper).

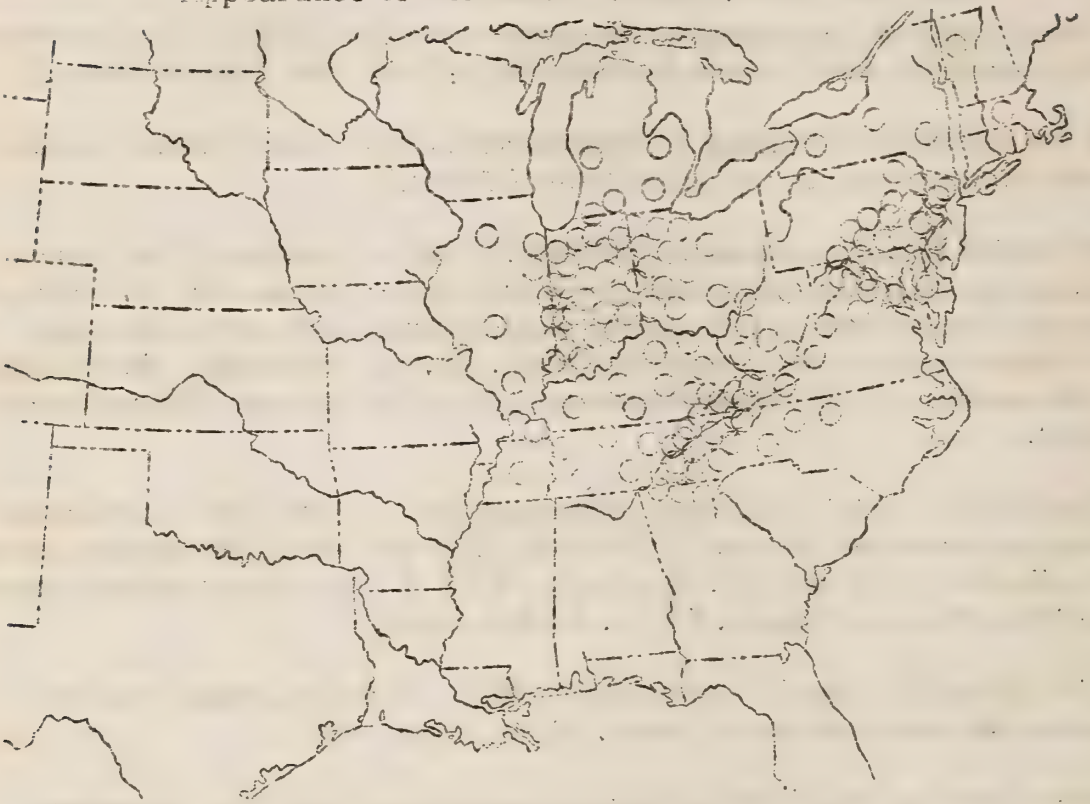
RUSTY PLUM APHID (Hysteroneura setariae) - ARIZONA - Abundant and causing severe damage to young growth on plum trees at Tempe. (Barnes and Nerney). Reported as being abundant at Coolidge also. (G. D. Butler).

BLACK CHERRY APHID (Myzus cerasi) - PENNSYLVANIA - Eggs hatching on sour cherry in Adams County. (J. O. Pepper).

PEAR MIDGE (Contarinia pyrivora) - NEW YORK - First observed April 22 in Columbia County. (M. E. Buckley). First adult, probably a male, found April 22 in Wayne County. (C. G. Small).

EASTERN TENT CATERPILLAR (Malocosoma americanum) - PENNSYLVANIA - Hatching and tents observed in wild cherry in southeast areas. (J. O. Pepper). NEW YORK - Began hatching April 17 in Oswego County. (A. Lum). MISSOURI - A tent caterpillar, probably this species, seems to be unusually abundant in south-central areas. (Wkly. Rept. Fr. Grs.)

Appearance of Periodical Cicada (Brood X) - 1953



PERIODICAL CICADA (Magicicada septendecim). Brood X, the most widespread and abundant of the broods, is scheduled to appear this year over most of the northeastern quarter of the country, being most abundant in three foci. (See map). The insect will appear suddenly in great numbers about the last week of May. During the following six weeks it will fill the countryside with its remarkable song, mate, lay its eggs in the twigs, and pass away as suddenly as it appeared. We are very anxious to obtain all the records possible, particularly its date of appearance, on this brood, and your help will be appreciated. If you see or hear it please submit the record of the definite place and date to your State clearing house for forwarding to Washington.

The Division of Information, Bureau of Entomology and Plant Quarantine has prepared a leaflet on the periodical cicada, which will be available for distribution about May 15.

PERIODICAL CICADA (Magicicada septendecim) - MARYLAND - Emergence holes in several orchards in Hancock area. Population counts show average of 17 cicadas per square foot. (C. Graham).

GREEN JUNE BEETLE (Cotinis nitida) - MISSOURI - Complaints from all over the State more numerous than usual this spring. There appears to be an especially heavy infestation. (L. Haseman).

JUNE BEETLES (Scarabaeidae) - TEXAS - Some general damage to pecan trees in Morris County. (H. A. Walters).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Infestation rather general in Salt River Valley. Severe injury to navel oranges not treated in some areas. (J. N. Roney).

COTTONY-CUSHION SCALE (Icerya purchasi) - ARIZONA - Infestations increasing in Grace and Goodyear grapefruit orchards. Control necessary. (J. N. Roney).

TRUCK CROP INSECTS

CUTWORMS (Phalaenidae) - SOUTH CAROLINA - Continue to cause moderate injury to beets in Charleston area. (W. J. Reid). TEXAS - Medium widespread infestation on vegetables in Upshur County. (W. B. Lewis). Medium isolated infestation attacking castor beans at Cometa. (B. H. Richardson). Medium widespread infestation attacking corn and tomatoes in Morris County. (H. A. Walters). UTAH - Fewer than last season on beets and gardens in Greenriver and Moab areas. (G. F. Knowlton).

APHIDS (Aphidae) - VIRGINIA - Generally increasing in Norfolk area, but no cases of severe injury to such crops as spinach or potatoes reported. (Brubaker, Greenwood, Hofmaster). TEXAS - Light isolated infestation on watermelons in Jim Wells County. (L. Brandes). Severe infestation attacking vegetable crops in Bastrop County. Also severe on flowers. (J. R. Reese). Light isolated infestation on castor beans at Cometa. (B. H. Richardson). Medium to severe widespread infestation attacking many plants in Wood County. (E. A. Spacek).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Eggs moderately abundant in Charleston area. No larvae seen in field. (W. J. Reid).

SEED-CORN MAGGOT (Hylemya cilicrura) - GEORGIA - Boring in stems of snap beans in Treutlen County. (C. R. Jordan).

BEET LEAFHOPPER (Circulifer tenellus) - UTAH - Numerous on Russian-thistle near Moab. (G. F. Knowlton).

CABBAGE BUTTERFLIES - MISSOURI - Appeared earlier than usual this year. (L. Haseman). NEW YORK - First observed April 24 in Rockland County. (W. J. Clark).

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - Adults observed in Suffolk County April 20. First observed in Rockland County April 21. (W. J. Clark). Few flies observed in Niagara County April 24. (V. C. Stevenson).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - A few specimens in potatoes, but no injury of importance. (J. N. Roney).

CABBAGE APHID (Brevicoryne brassicae) - DELAWARE - Continues to increase in cabbage plantings near Bridgville and Georgetown. (Late News). VIRGINIA - Some kale and collards grown for seed in Norfolk area being injured. Light infestation in other fields. (Brubaker, Greenwood, Hofmaster).

STRIPED FLEA BEETLE (Phyllotreta striolata) - TENNESSEE - Large numbers attacking radishes, particularly, in gardens. (R. P. Mullett).

POTATO PSYLLID (Paratrioza cockerelli) - ARIZONA - A few potato fields show very low populations. (J. N. Roney).

TOMATO FRUITWORM (Heliothis armigera) - TEXAS - Infestation lighter on tomatoes in Hidalgo County than last week but still widespread. (Wene and Griffith).

LEAF MINERS - TEXAS - Severe widespread infestation attacking tomatoes in Hidalgo County. Two fields with very severe infestations have been dusted. (Wene and Griffith).

MELON APHID (Aphis gossypii) - TEXAS - Severe isolated infestation attacking watermelons south of Batesville. (B. H. Richardson).

ONION THRIPS (Thrips tabaci) - TEXAS - Medium isolated infestation attacking castor beans at Cometa. (B. H. Richardson).

A SPIDER MITE (Tetranychus telarius) - ARIZONA - Several infestations on arborvitae found in Phoenix, ranging from light to severe. (J. F. Brantlinger).

ROSE APHID (Macrosiphum rosae) - ARIZONA - Observed in large numbers in a Phoenix nursery. (J. F. Brantlinger).

STRAWBERRY WEEVIL (Anthonomus signatus) - DELAWARE - Active on strawberries in Bridgeville area. (Late News). MARYLAND - Active on strawberry blossoms in Wicomico County. (T. L. Bissell).

GRASSHOPPERS (Acrididae) - FLORIDA - Control measures necessary in some shadegrown tobacco in Gadsden County and adjacent areas. (L. M. May).

GREEN PEACH APHID (Myzus persicae) - FLORIDA - Populations on experimental tobacco at Quincy have increased from 100 to 300 percent in the past several days. (L. M. May).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Overwintered boll weevils continue to be found in considerable numbers in some fields in Jim Wells and Refugio Counties. Weevils also found in a few fields in Wharton and Austin Counties. (C. R. Parencia). Reported from all sections of Lower Rio Grande Valley and in a few cases control warranted. Population very much reduced in comparison with population at same time last year. (R. D. Griffith).

COTTON FLEAHOPPER (Psallus seriatus) - TEXAS - Overall population light in Lower Rio Grande Valley but heavy damage occurs in some fields. (R. D. Griffith). Light infestations in all southern counties and throughout the Upper Coastal area with infestations heavy enough to warrant control measures in many fields in Jim Wells County and in occasional fields in La Salle, Uvalde and Zavala Counties. (C. R. Parencia).

APHIDS ON COTTON -TEXAS - Inspections in 16 fields in McLennan and Falls Counties showed no infestation in 4 fields, light infestations in 9 fields, a medium infestation in 1 field and heavy infestations in 2 fields. (Parencia and Cowan). Heavy infestations in Lower Rio Grande Valley in the Willacy County area. Plants in many fields are covered with honeydew. (R. D. Griffith). Medium to heavy infestations in many fields in several southern counties. (C. R. Parencia).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Surface debris inspection between April 1 and 15 showed the following results: One live pink bollworm in 50 bolls from Karnes County, 4 in 30 bolls from Lee County. These counties are in south and south central Texas. In five west Texas counties (Gaines, Howard, Mitchell, Tom Green and Yoakum) 1,227 bolls were examined and 41 pink bollworms found. Of this number 40 were found in 500 bolls from Tom Green County. Material from above the soil surface was examined from six counties in west Texas (Andrews, Gaines, Howard, Scurry, Terry and Yoakum) showing 95 live pink bollworms in 1,224 bolls. Ninety-three of the 95 larvae were taken from 82 bolls collected in Scurry County. MEXICO - Bloom inspection in Mexico is much farther advanced than during this period in 1952. This year 70,241 blooms have been inspected and 79 pink bollworms found through April 15, while only 120 blooms had been inspected and 12 larvae found by this date in 1952. (Pink Bollworm Control Project).

TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) - ARIZONA - Light infestation on stub cotton in Scottsdale area of Maricopa County. (J. N. Roney).

SEED-CORN MAGGOT (Hylemya cilicrura) - GEORGIA - Destroying stands of seedling cotton in Hart County, April 23. (W. G. Walters).

CUTWORMS (Phalaenidae) - TEXAS - Some entire cotton fields treated for cutworm control in McLennan and Falls Counties area. Cutworms in many instances moving into row crops from infested forage crops. (Parencia and Cowan).

THRIPS - ARIZONA - Unidentified species appearing in stub cotton in some areas of Maricopa County. Injury severe in spots. (J. N. Roney). TEXAS - No general migration to cotton in McLennan and Falls Counties. (Parencia and Cowan). Infestations have increased in southern counties considerably over last week. Control measures applied some fields; needed in many. (C. R. Parencia).

FOREST INSECTS

MORNING-CLOAK BUTTERFLY (*Nymphalis antiopa*) - ARIZONA - Larvae defoliating some elms in Coolidge. (G. D. Butler).

INSECTS AFFECTING MAN AND ANIMALS

AMERICAN DOG TICK (*Dermacentor variabilis*) - TENNESSEE - Very prevalent over most of the State. (R. P. Mullett).

MISCELLANEOUS INSECTS

PAINTED-LADY (*Vanessa cardui*) - UTAH - Migrating flights observed at several points in Salt Lake and Utah Counties April 24-25; small numbers generally moving north or northeast. (G. F. Knowlton).

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First Reported Season Records (by areas)

PLUM CURCULIO first full-grown larvae left peach drops April 20 in Fort Valley, Georgia area. EUROPEAN RED MITE hatching in Hancock, Maryland area; northeastern Ohio; Rockland County, New York April 23. RED-BANDED LEAF ROLLER moths observed in Niagara County, New York April 24; first egg mass in Columbia County April 20. ORIENTAL FRUIT MOTH taken in Yakima County* April 17. TARNISHED PLANT BUG observed in Niagara County, New York April 24. PEAR MIDGE observed April 22 in Columbia and Wayne Counties, New York. CABBAGE BUTTERFLIES observed April 24 in Rockland County, New York. CABBAGE MAGGOT adults observed in Suffolk County, New York April 20, Rockland County April 21, Niagara County April 24.

*Washington

SURVEY METHODS

Prediction of Alfalfa Caterpillar Populations
(as used in California)

Sampling methods: Samples of the larval population are taken by sweeps of a standard insect net. The lower edge of the net is held eight to ten inches into the alfalfa and as the sweeps are made, the rim of the net should be held perpendicular to the ground. The sweeps are made through a half circle from one side of the sweeper to the other. A step is taken between each sweep. Normally a circle of the field will be made taking one or two sweep samples at frequent intervals. All types of growth (height, variety, color, ridges, between ridges, "islands", etc.) should be sampled. Fields or portions of fields which grow more slowly than normal, e. g., remain in the 1/4 stage for a long time, should be watched carefully. When confirmation counts (check counts made to confirm previous predictions) are made, fewer samples, generally at a few specific spots, are taken. As one becomes more experienced, most of the counts are estimated. Only about every fifth sample is counted. Twenty minutes per field, although some will take much more, is a good average. It is important to realize that slack periods occur between broods. Under conditions favorable for the caterpillar a field may go from the oviposition stage to the injurious stage in ten days or less. Routine visits are made to every field each week and such supplementary counts as seem necessary are made between visits.

Economic level of infestation: The standard by which economic infestations are judged is a sliding scale centered around 200 non-parasitized larvae per 20 sweeps of the standard net. This "center point" is to be used for average conditions (which rarely exist). Other factors, such as growth, stand, period remaining until harvest, must be taken into consideration. For example, this center point is too low for a dense, vigorously growing alfalfa field and for infestations developing during cool weather.

Factors favoring damage: The development of an economic population is favored by (a) large flights of adults when the alfalfa is short, (b) few short fields in the vicinity at time of flight, (c) slow or uneven growth of alfalfa, (d) insufficient parasites to reduce the population below the economic level, and (e) hot, dry weather. (R. F. Smith and W.W.Allen).

LYGUS BUGS

(Methods used in California)

On alfalfa seed: Alfalfa grown for seed should be treated for lygus control only when the lygus bug population justifies it. The treatment level will vary with the growth stage of the alfalfa. The treatment levels are the numbers which indicate the proper time or insecticide applications, and are not, necessarily, the population density at which economic damage occurs. Treatments are made at these levels to avoid later populations which may cause economic damage. Lygus counts are based on two-sweep counts taken with a standard net at 10 to 20 stations over a field. At least three two-sweep counts are made at each station. The margins of the field, spots with heavy growth, and other areas of the field may have a significantly higher count than the remainder of the field. In general, all counts in a field are averaged and treatment is based on this average population. Occasionally it is practical to treat only portions of a field.

Alfalfa in the early bloom stage is treated when the lygus-bug count reaches one insect per sweep. During the period of seed set, the fields are treated when the count of lygus bugs reaches six per sweep. Counts are determined by doubling the nymphal count and adding it to the adult count. For example, two adults and two nymphs per sweep equal a count of six; four adults and one nymph also equal a count of six; and similarly, three nymphs or six adults equal a count of six. If lygus bugs have been kept under control during the period of seed set, there is seldom any need for treating the maturing field; however, if the pests appear to be unusually abundant, the count for treatment is ten per sweep, determined in the same manner as described above.

On cotton: Lygus bugs are particularly attracted to succulent or rank-growing fields. Sweeps in cotton are made through the tops of one row. An average total of ten lygus bugs per 50 such sweeps is the minimum injurious number. Each nymph is counted as two and each adult as one. The presence of nymphs indicates a more advanced and serious infestation. This is for average conditions; it is possible that a lower population that is maintained for a long period of time may cause economic damage. However, in most years the populations do not hold steadily at one level.

On blackeye beans or cowpeas: A favored oviposition site of lygus bugs infesting blackeye beans is in the developing pod and such spots are commonly seen as small depressions with the cap of the egg forming the bottom. As the season progresses so does the number of nymphs and it is not unusual to find fields in which there are more nymphs than adults. In lygus - infested blackeye bean fields it is possible to show a correlation between populations and the amount of injury at harvest time. These fields are sampled by means of a standard 15 inch net. A sweep across two rows of beans constitutes one sweep and five such sweeps are made at each of ten stations in the field. The total number of adults and nymphs are recorded separately for each series of five sweeps. A population averaging 50 or more lygus per sweep is sufficient to cause considerable damage, especially if present when beans are in a susceptible stage. A population this heavy can be tolerated until late bloom and early pod stage when the beans should be treated.

Studies have made possible the following generalities concerning abundance and resulting seed injury. A population averaging 0-10 lygus per 50 sweeps persisting from early pod time to harvest will result in from 0.4 to 2.0 percent of beans with injury; a population of from 15 to 20 will cause 2.5 to 5.0 percent seed injury; from 40-50 lygus will cause 6.0-12.0 percent injury and 60 lygus or more per 50 sweeps will result in 15 percent or more of the seed injured. (R. F. Smith and J. E. Swift, alfalfa seed; G. L. Smith, cotton; W. W. Middlekauff, cowpeas).